Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Spectrum Needs of Emergency Response Providers	)	WT Docket No. 05-157
	)	
	)	

To: The Commission

COMMENTS OF

Statewide Wireless Network
New York State Office for Technology
State Capitol, ESP
P.O. Box 2062
Albany, New York 12220-0062

April 28, 2005

1. These comments from the Statewide Wireless Network of the New York State Office for Technology, present the recommendations and comments of the State of New York with regard to the above captioned Request for Comment from the Federal Communications Commission (Commission), FCC 05-80, released March 29, 2005 (Request for Comment).

2. The New York State Office for Technology, on behalf of the State of New York, is in the process of procuring a new Statewide Wireless Network (SWN) for State, Federal and Local Governmental entities that operate within New York State's geographic borders. SWN will provide an integrated mobile radio communications network that will be utilized by both

Public Safety and Public Service agencies in New York State. It will provide a digital, trunked architecture that will offer both voice and data capabilities. It will be used in day-to-day operations, as well as for disaster and emergency situations, to more effectively and efficiently coordinate the deployment of all levels of government resources to such incidents. It will also enhance international coordination along the US/Canadian border, and will play a critical role in supporting the homeland defense efforts within the State of New York.

3. The Request for Comment asks commenters to address the future spectrum needs of the emergency responder community, for interoperability purposes and otherwise on a short-term and long-term basis, including whether Congress should allocate additional spectrum in the 700 MHz band for emergency responder communications.

4. The Request for Comment also seeks input:

   (1) regarding the operation and administration of a potential nationwide interoperable broadband mobile communications network, and

   (2) to consider the use of commercial wireless technologies to the greatest extent possible.

5. On September 11, 1996, the Public Safety Wireless Advisory Committee (PSWAC) submitted its recommendations for 97.5 MHz of additional Public Safety spectrum that would be needed below 3 GHz by the year 2010. It identified an immediate need for 25 MHz of spectrum, for which the Congress allocated 24 MHz in the 700 MHz band. However, this spectrum is still occupied by analog television stations in certain areas of the country – generally the highly populated areas. The Digital Television (DTV) transition

must be completed on its original schedule – December 31, 2006, with **no exemptions**. This spectrum is urgently needed by Public Safety now.

6. PSWAC additionally identified a need for 50 MHz of spectrum by 2010 and a need for a 2.5 MHz block of spectrum in the 136 – 512 MHz bands for interoperability communications. These additional needs remain un-fulfilled at this date. It should be noted that PSWAC used very aggressive spectrum efficiency assumptions in its spectrum need calculations. These efficiencies have not been realized to date, and therefore, the spectrum needs they reported are on the low side of what is really needed.

7. Today, only TDMA trunking systems can meet the 6.25 kHz per voice traffic channel spectrum efficiency that the Commission envisions for the future of Private Land Mobile Radio channel allocations. The current road map for conversion to narrow-band operation requires 12.5 kHz by 2013[1]. Only a few TDMA trunking systems are deployed or proposed for deployment, as in the case of SWN. Small agency systems that are not part of a large system generally do not use TDMA and are at best only at 12.5 kHz efficiency, if they have upgraded to ANSI/TIA-102 standard FDMA type systems[2].

8. In footnote 7 of the Request for Comment, the definition of "interoperable communications" involves the "exchange of voice, data or video with one another on demand, in real time, as necessary." Since these new technologies to be deployed in 700 MHz and 4.9 GHz public safety bands utilize well defined air-interface standards to permit interoperable

[1] 3rd MO&O in WT Docket 99-87, FCC 04-292, released December 23, 2004.

[2] The National Institute of Justice produced a Research Report, #NCJ 168961, January 1998, "State and Local Law Enforcement Wireless Communications and Interoperability: A Quantitative Analysis". From pages 5,6 and 8 of that report: Of 17,357 total agencies in the United States, approximately 95% have fewer than 100 sworn officers = 16,489 medium sized agencies. 75% of these medium sized agencies have fewer than 25 sworn officers = 12,367 small agencies.

communications, part of the communications solution is provided. And, in the case of voice transmission on designated interoperability channels the application is solved by the use of a standard vocoder (ANSI/TIA-102.BABA). However, there is no defined application standard for the transmission of data or video. In order for interoperable communications to take place, the signaling protocol specific to the application must be used by both the sender and the receiver of the information being transmitted. Therefore, a Federal Advisory Committee should be established to develop or identify an appropriate set of standards to be used on the designated interoperability channels.

9. Based on the increased nationwide focus on Homeland Security, since September 11, 2001, there is an increased need for specialized communications capabilities and for interoperability between agencies. In New York State, SWN seeks to fill that need. However, as more local agencies come on the system, migrating up from VHF and UHF channels, there is a need for additional channels to support the traffic loading increases that will result in the more highly populated areas. In addition, the use of inter-system gateways as a mechanism to bring non-SWN systems onto SWN will require additional channels to support the additional traffic load this will present.

10. SWN is planned to use the 800 and 700 MHz bands so that a single common subscriber unit (mobile or portable radio) is all that an emergency first responder will have to operate. Therefore, any additional channels for SWN need to come from spectrum that is immediately proximate to the current 700 and 800 MHz Public Safety bands. The best way to accomplish that is to allocate all of 746-806 MHz to Public Safety and move the commercial allocation down to the 692-746 MHz band. The Commission has surely learned the desirability of

separating commercial ESMR operations from Public Safety in the 800 MHz band, where intermixing channel allocations created severe interference problems to Public Safety.

11. In the 4.9 GHz Public Safety band, broadband data operations are developing. However, the range of these access points are generally very limited, and not at all well suited for wide area operations.

12. Additional wideband data requirements can be accomplished in 50 / 100/ 150 kHz channel width allocations in a portion of the additional 700 MHz spectrum assignment recommended in paragraph 10, above. With the addition of that spectrum, it would be prudent to reallocate the existing wideband data block into the new spectrum along side the additional wideband allocations.

13. In terms of establishing a nationwide interoperable network, Congress could facilitate such a deployment by providing funding. Clearly, the degree to which a wide area interoperable land mobile communications network could be implemented is related to the funding available.

14. Additional VHF spectrum is needed in many areas of the country. It is particularly well suited for wide area system in sparsely populated areas, and particularly in those areas where terrain and environmental issues exist. Current narrowbanding improvements will not be very significant until the year 2013 when 12.5 kHz channel operation will be required. Even then, since the current band plan is 15 kHz with geographic offset of adjacent channel transmitter sites, the improvement will have a minimal impact because of the embedded base that exists.

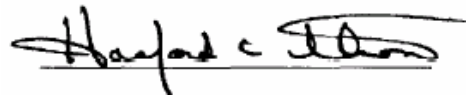
15. Commercial networks are generally built to meet the average customer's needs. If there isn't a financially sound business case, base stations with high reliability, hardened facilities are not built out to serve under-populated areas. Further, these networks are generally subject to unpredictable service outages due to traffic overload, severe weather conditions, labor strikes and other business disruptions.

16. While commercial networks may well provide certain types of non-critical communications capability for Public Safety, they do not measure up to the mission critical requirements that Public Safety systems require.

17. However, the use of advanced commercial technologies could provide significant improvements in mobile data communications if the broadband spectrum allocations that are required for these advanced technologies can be provided.

Thank you for the opportunity to comment on these issues. We look forward to decisive and timely action by the Commission and the Congress in order to provide near-term spectrum relief for those who protect the life and property of our public that we serve.

Respectfully Submitted,



Hanford C. Thomas
Deputy Director
New York State Office for Technology
State Capitol – ESP
P.O. Box 2062
Albany, New York 12220-0062
(518) 443-2041